APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/663,490	09/18/2000	William L. Luken	YOR919990545	4473

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EXAMINER
DINH, KHANH Q

ART UNIT	PAPER NUMBER
2155	

DATE MAILED: 09/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/663,490	LUKEN ET AL.
	Examiner	Art Unit
	Khanh Dinh	2155

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 September 2000* .

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28* is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

     If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a)☐ All b)☐ Some * c)☐ None of:

         1.☐ Certified copies of the priority documents have been received.

         2.☐ Certified copies of the priority documents have been received in Application No. _____ .

         3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

     a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)   4)☐ Interview Summary (PTO-413) Paper No(s). _____ .

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)   5)☐ Notice of Informal Patent Application (PTO-152)

3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .   6)☐ Other: .

DETAILED ACTION

1.   Claims 1-28 presented for examination.

Claim Rejections - 35 USC § 102

2.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the

rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3.   Claims 1, 2, 4-11, 13-17, 19-22 and 24-28 are rejected under 35 U.S.C. 102(e) as being anticipated by

Lumetsky et al., US pat. No.6,463,454.

As to claims 1 and 10, Lumetsky discloses a method for scheduling the delivery of data packets representing

one or more media data tracks (multimedia objects), said method allowing the data packets to be delivered tom

a server (1201, 1211 of fig.4) to a client (110, 111 of fig.4) with a given bandwidth so as to minimize the initial

delay required for the client to present the data without interruption, said method including the steps of:

        creating a list of virtual data packets (time-synchronized streams of continuous media data)

representative of all data packets to be scheduled for delivery from the server to the client (see fig.4, abstract,

col.8 line 51 to col.9 line 45).

        calculating a delivery deadline (applying a placement policy for each request of multimedia objects

including time-to-live dead line) for each virtual data packet based on the communications bandwidth from the

server to the client (see fig.5, col.9 line 46 to col.10 line 48).

sorting the list of virtual data packets based on the delivery deadlines calculated for each virtual data

packet, to provide a sorted list and delivering the data packets in accordance with the sorted list (see col.10 line

49 to col.12 line 53).

As to claim 2, Lumetsky discloses resolving temporal collisions between virtual data packets (see col.12 line 60

to col.13 line 67 and col.14 lines 1-55).

As to claim 4, Lumetsky discloses comparing each virtual data packet in the sorted list of virtual data packets to

the preceding member of this list, starting with the member of this list having the latest delivery deadline and

ending with the member of this list having the earliest delivery deadline (using demand statistics to calculate the

time intervals, see fig.11a, col.17 line 8 to col.18 line 38 and col.19 lines 2-50).

As to claim 5, Lumetsky discloses removing temporal gaps between successive virtual data packets (see fig.11a,

col.17 line 8 to col.18 line 38 and col.19 lines 2-50).

As to claim 6, Lumetsky discloses comparing each virtual data packet in the sorted list of virtual data packets to

the next successive member of this list, starting with a first member of the list having the earliest delivery

deadline and ending with a last member of this list having the latest delivery deadline (using demand statistics

to calculate the time intervals, see fig.11a, col.17 line 8 to col.18 line 38 and col.19 lines 2-50).

As to claim 8, Lumetsky discloses determining optimal client buffer size based on the communications

bandwidth and communicating optimal client buffer size information to the client (see fig.8, col.22 line 31 to

col.23 line 61).

As to claim 8, Lumetsky discloses determining a new communications bandwidth, calculating a revised sorted

list based on the new communications bandwidth; replacing the sorted list with the revised sorted list and

continuing delivery of packets according to the revised sorted list (see figs.8 and 12, col.22 line 31 to col.23 line

61 and col.25 line 28 to col.26 line 50).

As to claim 9, Lumetsky discloses determining optimal client buffer size based on the new communications

bandwidth and communicating the optimal client buffer size to the client (see fig.8, col.22 line 31 to col.23 line

61).

Claims 11 and 13-15 are rejected for the same reasons set forth in claims 2 and 4-6 respectively.

Claim 16 is rejected for the same reasons set forth in claim 1.   As to the added limitations, Lumetsky discloses

calculating the initial delay based on the size of the first data packet on said sorted list (see col.10 line 49 to

col.12 line 53 and col.15 line 14 to col.16 line 64).

Claims 17 and 19 are rejected for the same reasons set forth in claims 2 and 4 respectively.

As to claim 20, Lumetsky discloses the minimum initial delay is determined by -t (deadline) for the first member having earliest delivery deadline of the sorted fist of virtual data packets (using demand statistics to calculate the time intervals including time-to-live dead line, see col.17 line 8 to col.18 line 38 and col.19 lines 2-50).

Claim 21 is rejected for the same reasons set forth in claim 1. As to the added limitations, Lumetsky discloses determining the maximum amount of data to be stored in the buffer as a function of time based the size of the virtual data packets and the delivery schedule from said sorted list (see fig.5, col.9 line 46 to col.10 line 48 and col.13 line 3 to col.14 line 55).

Claims 22 and 24-26 are rejected for the same reasons set forth in claims 2 and 4-6 respectively.

Claim 27 is rejected for the same reasons set forth in claim 1. As to the added limitations, Lumetsky discloses at least one media database (850 or 860 fig.8) for storing multimedia data packets; at least one media delivery component (830 fig.8) for delivering data packets and at least one ordering component for ordering the multimedia data into data packages for delivery (see fig.8, col.22 line 31 to col.24 line 57).

Claim 28 is rejected for the same reasons set forth in claim 1

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5.   Claims 3, 12, 18 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lumelsky US pat. No.6,463,454 in view of Packer, US pat. No.5,802,106.

Lumelsky's teachings still applied as in item 4 above. Lumelsky does not specifically disclose using t(deadline) = t (start) −(packetsize)/(bandwidth). However, Packer discloses t(deadline) = t (start) − (packetsize)/(bandwidth) (see fig.2 and col.4 line 39 to col.5 line 55 and col.6 line 44 to col.8 line 12). It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement Packer's teachings into the computer system of Lumelsky detect data flow rate capacity because it would have provided important strategic decisions about the nature and the speed of the future connections and used to set the communication link parameters (see Packer's col.6 lines 26-60).

Other prior art cited

6.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

        a. Nattkemper et al., US pat. No.5,953,318.

   b. Cook et al., US pat.6,427,063.

   c. MacCrisken, US pat. No.4,730,348.

   d. Bowman-Amuah, US pat. No.6,578,068.

Conclusion

7.   Claims 1-28 are rejected.

8.   Any inquiry concerning this communication or earlier communications from the examiner should be

directed to Khanh Dinh whose telephone number is (703) 308-8528. The examiner can normally be reached on

Monday through Friday from 8:00 A.m. to 5:00 P.m.

   If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alam

Hosain, can be reached on (703) 308-6662. The fax phone number for this group is (703) 746-7239.

   A shortened statutory period for reply is set to expire THREE months from the mailing

date of this communication. Failure to response within the period for response will cause the application to

become abandoned (35 U. S C . Sect. 133). Extensions of time may be obtained under the provisions of 37 CFR

1.136(A).

   Any inquiry of a general nature or relating to the status of this application or proceeding should be

directed to the Group receptionist whose telephone number is (703) 305 -9600.

HOSAIN ALAM
SUPVISORY PATENT EXAMINER

Khanh Dinh
Patent Examiner
Art Unit 2155
9/5/2003